# Billing Code 6355-01-P

#### **CONSUMER PRODUCT SAFETY COMMISSION**

16 CFR Part 1223

CPSC Docket No. CPSC-2012-0011

RIN 3041-AC90

**Safety Standard for Infant Swings** 

**AGENCY:** Consumer Product Safety Commission.

**ACTION:** Notice of Proposed Rulemaking.

**SUMMARY:** The Consumer Product Safety Improvement Act of 2008 ("CPSIA") requires the United States Consumer Product Safety Commission ("Commission," "CPSC," "we," or "us") to promulgate consumer product safety standards for durable infant or toddler products. These standards are to be "substantially the same as" applicable voluntary standards or more stringent than the voluntary standard if the Commission concludes that more stringent requirements would further reduce the risk of injury associated with the product. The Commission is proposing a safety standard for infant swings in response to the direction under the CPSIA.

**DATES:** Submit comments by [INSERT DATE 75 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** Comments related to the Paperwork Reduction Act aspects of the marking, labeling, and instructional literature of the proposed rule should be directed to the Office of Information and Regulatory Affairs, OMB, Attn: CPSC Desk Officer, FAX: 202-395-6974, or e-mailed to: <a href="mailed-oira\_submission@omb.eop.gov">oira\_submission@omb.eop.gov</a>.

Other comments, identified by Docket No. CPSC-2012-0011, may be submitted electronically or in writing:

Electronic Submissions: Submit electronic comments to the Federal eRulemaking Portal at: http://www.regulations.gov. Follow the instructions for submitting comments. To ensure timely processing of comments, we are no longer directly accepting comments submitted by electronic mail (e-mail), except through www.regulations.gov. We encourage you to submit electronic comments by using the Federal eRulemaking Portal, as described above.

<u>Written Submissions:</u> Submit written submissions in the following way: Mail/Hand delivery/Courier (for paper, disk, or CD-ROM submissions), preferably in five copies, to: Office of the Secretary, Consumer Product Safety Commission, Room 820, 4330 East West Highway, Bethesda, MD 20814; telephone (301) 504-7923.

Instructions: All submissions received must include the agency name and docket number for this rulemaking. All comments received may be posted without change, including any personal identifiers, contact information, or other personal information provided, to: <a href="http://www.regulations.gov">http://www.regulations.gov</a>. Do not submit confidential business information, trade secret information, or other sensitive or protected information that you do not want to be available to the public. If furnished at all, such information should be submitted in writing.

<u>Docket:</u> For access to the docket to read background documents or comments received, go to: <a href="http://www.regulations.gov">http://www.regulations.gov</a>, and insert the docket number, CPSC 2012-0011, into the "Search" box, and follow the prompts.

**FOR FURTHER INFORMATION CONTACT:** Celestine T. Kiss, Project Manager, Consumer Product Safety Commission, Directorate for Engineering Sciences, 4330 East West Highway, Bethesda, MD 20814; e-mail: CKiss@cpsc.gov.

#### SUPPLEMENTARY INFORMATION:

#### A. Background and Statutory Authority

The Consumer Product Safety Improvement Act of 2008, ("CPSIA," "Pub Law 110-314") was enacted on August 14, 2008. Section 104(b) of the CPSIA requires the Commission to promulgate consumer product safety standards for durable infant and toddler products. These standards are to be "substantially the same as" applicable voluntary standards or more stringent than the voluntary standard if the Commission concludes that more stringent requirements would further reduce the risk of injury associated with the product. The term "durable infant or toddler product" is defined in section 104(f)(1) of the CPSIA as a durable product intended for use, or that may be reasonably expected to be used, by children under the age of 5 years. Infant swings are one of the products specifically identified in section 104(f)(2)(F) as a durable infant or toddler product.

In this document, we propose a safety standard for infant swings. The proposed standard is based on the voluntary standard developed by ASTM International (formerly the American Society for Testing and Materials), ASTM F 2088-11b, "Standard Consumer Safety Specification for Infant Swings" ("ASTM F 2088-11b"). The ASTM standard is copyrighted but can be viewed as a read-only document, only during the comment period for this proposal, at: <a href="http://www.astm.org/cpsc.htm">http://www.astm.org/cpsc.htm</a>, by permission of ASTM.

The information discussed in this preamble supporting the proposed safety standard for infant swings can be found in the staff briefing package, which is available at http://www.cpsc.gov/.

#### B. The Product

#### 1. Definition

ASTM F 2088-11b defines an "infant swing" as a "stationary unit with a frame and powered mechanism that enables an infant to swing in a seated position. An infant swing is intended for use with infants from birth until a child is able to sit up unassisted." ASTM F 2088-11b also covers "cradle swings," which are defined as "an infant swing which is intended for use by a child lying flat." Cradle swings are distinguishable from other types of swings because they enable a child to lie flat on their back, even when the swing is in motion. ASTM F 2088-11b also covers "travel swings," which are a "low profile, compact swing having a distance of 6 in. or less between the underside of the seat bottom and the support surface (floor) at any point in the seat's range of motion."

# 2. The Market

Based on a 2005 survey conducted by American Baby Group, titled, "2006 Baby Products Tracking Study," and Centers for Disease Control and Prevention birth data, we estimate that approximately 2.7 million infant swings are sold in the United States each year. We estimate that there are at least 10 manufacturers or importers supplying infant swings to the U.S. market. Eight firms are domestic manufacturers, and two are domestic importers with a foreign parent company.

The Juvenile Products Manufacturers Association ("JPMA") is the major U.S. trade association that represents juvenile product manufacturers and importers. The

JPMA provides a certification program that allows manufacturers and importers to use the JPMA seal if they voluntarily submit their products for testing to determine if they meet the voluntary standard. Currently, infant swings produced by 5 of the 10 firms, 4 manufacturers and 1 importer, have been certified by the JPMA as compliant with the ASTM voluntary infant swing standard.

# C. Infant Swings and the ASTM Voluntary Standard

# 1. Introduction and Consultation Requirement

Section 104(b)(1)(A) of the CPSIA requires us to consult representatives of "consumer groups, juvenile product manufacturers, and independent child product engineers and experts" to "examine and assess the effectiveness of any voluntary consumer product safety standards for durable infant or toddler products." ASTM F 2088 is the primary infant swing standard in effect in the United States. Through the ASTM process, we consulted with manufacturers, retailers, trade organizations, laboratories, consumer advocacy groups, consultants, and members of the public.

# 2. The ASTM Voluntary Standard

ASTM F 2088 was first published in September 2001. It has been updated seven times, with the latest edition, ASTM F 2088-11b, published in November 2011. The key provisions of the current ASTM infant swing standard include: definitions; general requirements; performance requirements; specific test methods; and requirements for marking, labeling, and instructional literature.

a. Definitions. ASTM F 2088-11b contains definitions for key terms found in the standard.

- b. General Requirements and Specific Test Methods. ASTM F 2088-11b contains general requirements that infant swings must meet, as well as mandated test methods that must be used to ensure that the product meets those requirements. It includes:
  - restrictions on sharp edges and points, small parts (as well as their protective caps), lead paint, and wood parts;
  - specifications to prevent scissoring, shearing, and pinching;
  - specifications on openings (intended to prevent finger and toe entrapment),
     labeling (intended to prevent labels from being removed and ingested or aspirated), and coil springs; and
  - requirements for toy accessory items, including mobiles that accompany infant swings.
- c. Performance Requirements and Specific Test Methods. ASTM F 2088-11b contains performance requirements that infant swings must meet, as well as mandated test methods that must be used to ensure that the product meets those requirements. The standard includes:
  - structural integrity requirements, including dynamic and static load requirements, which are meant to ensure that the swing can withstand a certain amount of force;
  - stability requirements, meant to ensure that the swing does not tip over;
  - requirements to prevent unintentional folding of the swing;
  - restraint system requirements;
  - a requirement to ensure that infants are not able to slip through the leg opening and strangle (because their bodies can slip through, but their heads cannot);

- requirements for cradle swings to ensure that infants will remain flat; and
- requirements for the battery compartment of swings, which require, for example that the compartment contain a means to prevent battery leakage.
- d. Marking, Labeling, and Instructional Literature. ASTM F 2088-11b has requirements for marking, labeling, and instructions that must accompany an infant swing, including warnings advising caregivers to:
  - always use the restraint system in the swing;
  - never leave an infant unattended in a swing;
  - stop using the swing when an infant is able to climb out of it;
  - always use the most reclined seat position in swings with a certain adjustable seat recline until the infant can hold their head up unassisted; and
  - never place travel swings on an elevated surface.

#### D. Incident Data

## 1. Introduction

There have been 2,268 incidents reported to us regarding infant swings from January 1, 2002 through May 18, 2011. All the incidents involved children under the age of 3 years. Of those reported incidents, there were 15 fatalities, 600 nonfatal injuries, and 1,653 noninjury incidents. We believe that the incidents captured in this data reflect the range of hazard patterns seen in infant swings.

Table 1 is a summary of the 15 fatalities reported to us from January 1, 2002 through May 18, 2011. We analyzed each fatality and determined: (1) the cause of the infant's death, which is usually based on the conclusion of the medical examiner; and (2) whether the infant swing caused or contributed to the fatality. There were five deaths that

can be categorized as slump-over deaths. These fatalities, as well as the two other fatalities that were caused by the infant swing, are explained in more detail in Section E of this preamble.

Table 2 lists the hazards seen in infant swings. We determined the percentage of the incident reports attributable to each hazard, as well as the percentage of reported injuries attributable to each hazard. The percentages have been rounded up or down to represent a whole number. The hazards are explained in more detail in Section E of this preamble.

Information on fatalities, injuries, and noninjury incident reports that are attributable to unreasonable product misuse are mentioned only in the tables in this section. Examples of unreasonable product misuse include: placing two children in a swing meant for one child, or failing to use the restraint system. In addition, information is included only in the tables in this section on fatalities, injuries, and noninjury incident reports where: (1) it is unknown whether the infant swing contributed to the incident; or (2) there is insufficient information included in the report to determine what happened.

Fatalities, injuries, and noninjury incidents where the swing caused or contributed to the incident are discussed fully in Section E of this preamble.

# 2. Fatality Summary

Table 1 – Infant Swings Fatality Summary, January 1, 2002 through May 18, 2011

Description of Fatality	Number of
	<b>Fatalities</b>
Cause of Death ("COD") Positional Asphyxia, Slump-Over Death	4
COD Undetermined, Slump-Over Death	1
COD Positional Asphyxia, Attributable to Swing Restraint Issue	1
COD Undetermined, Attributable to Swing Seat Issue	1
COD Positional Asphyxia, Attributable to Product Misuse	2
COD Undetermined, Attributable to Product Misuse	2

# 3. Incident Summary

Table 2 – Infant Swings Hazard Summary, January 1, 2002 through May 18, 2011

Hazard	Percentage of Reported Incidents	Percentage of Reported Injuries
Restraint Issues, Both Inadequate Restraint Design and Restraint Failure	27%	33%, including 1 fatality and 1 fall that resulted in a hospitalization
Broken, Detached or Loose Swing Components ( <i>e.g.</i> , arm, leg, motor housing or hardware)	25%	20%
Seat Issues, Both Inadequate Seat Design and Seat Failure	16%	12%, including 1 fatality
Inadequate Clearance Between the Seat and the Swing Frame	13%	22%
Electrical or Battery Issues	9%	1%
Swing Instability	4%	2%, including 1 fall that resulted in a hospitalization
Broken or Detached Toys or Mobiles	2%	4%
Miscellaneous, Including Reports of Product Misuse and Reports with Insufficient Information	4%	7%

# E. Assessment of Voluntary Standard ASTM F 2088-11b and Description of Proposed Changes to ASTM F 2088-11b

# 1. Introduction

Infant swing hazards are best analyzed in conjunction with an assessment of the existing provisions of ASTM 2088-11b. In this section, we describe each hazard in detail. Following the description of the hazard is a summary of the requirements currently found in ASTM 2088-11b, if any provisions exist in the standard that are meant to address the hazard. If the existing standards are not adequate to address the hazard, we present our recommended changes. In most cases, it is helpful to compare the existing

language in ASTM F 2088-11b with the proposed language containing our recommended changes. When this is done, bold lettering indicates new language, and language that is struck through, indicates language that we propose should be deleted. In each case, consistent with section 104 of the CPSIA, the change must be more stringent than the existing voluntary standard in order to further reduce the risk of injury associated with the hazard.

#### 2. Slump-Over Deaths

# a. Description of Hazard

Of the 15 reported fatalities, 5 deaths have been deemed slump-over deaths. In 3 instances, the medical examiner or investigating officials specifically described the infant as being "slumped over." In 2 additional cases, the description of the infant's position suggests slump-over deaths. Slump-over deaths occur when very young children (in these cases, infants between the ages of 2 weeks old and 3 months old) lack the neck muscle tone and strength to keep their head up. In 4 of the 5 slump-over deaths, the official cause of death, as determined by the medical examiner, is positional asphyxia. Positional asphyxiation occurs when the position of the child's body (such as compression of their neck from their head being slumped over) prevents the child from breathing. In one case, the cause of death was undetermined, but we have concluded, based on a review of the fatality, that it was a slump-over death.

#### b. Assessment of ASTM F 2088-11b

Section 8.3.1(4) of ASTM F 2088-11b requires the following warning label on all infant swings that have an adjustable seat recline with a seat back angle greater than 50°: "Use only in most reclined seat position until infant can hold head up unassisted." Infant

swings with a seat back angle greater than 50° require the infant to be able to support their head, while a swing with a seat back angle less than 50° is more reclined and allows the infant to lay their head on the seat back.

We have determined that there is no engineering solution, such as a restraint, that would adequately address slump-over deaths. By including the warning statement in ASTM F 2088-11b, the ASTM committee recognizes the need for the statement in order to prevent slump-over deaths in infant swings. We agree and are not proposing any additional changes to the voluntary standard to address this issue. However, we are seeking comments related to slump-over deaths in section L of this preamble.

# 3. Restraint Design and Restraint Failures

# a. Description of Hazard

Issues related to restraints comprised 27 percent of the reports we received from the public. Restraint issues accounted for 33 percent of the reported injuries. Most of the reported injuries are attributable to restraint design issues, while the remainder are attributable to restraint failure.

Restraint design hazards arise when the restraint system is unable to contain a child in the swing seat, even when the restraint is assembled properly and is functioning according to the manufacturer's intent. Common reports in this category include infants who are able to lean forward or to the side and fall out of the seat. Some infants are strong enough to push themselves back and up with their feet, causing them to fall backward out of the swing, usually landing headfirst. One infant fatality and one fall that resulted in a hospitalization are attributable to restraint design problems.

Restraint failures include belt buckles or straps that break. In some reports,

the restraint system detaches from the swing completely. When the restraint system does fail in some way, the result is usually a fall from the swing, which can result in serious injuries.

#### b. Assessment of ASTM F 2088-11b

Section 6.4 of ASTM F 2088-11b requires all infant swings to have a waist and crotch restraint system. The standard also requires that swing restraint systems be tested to ensure that the attachment points of the system can withstand a certain amount of force, comparable to the amount of force an infant might apply. Manufacturers must ensure that the restraint system is attached to the swing and will not become detached through normal use.

ASTM F 2088-11b also contains a shoulder strap/harness requirement for infant swings with a seat back angle greater than 50.° Infants seated in swings with a seat back angle greater than 50° are much more likely to be able to lean forward or to the side, or be able to push backward. When this happens, the infant may fall out of the seat completely, or they may come into contact with the frame of the swing. Having shoulder straps on swings with a seat back angle exceeding 50° will aid in keeping the infant positioned in the swing seat.

# c. Description of Proposed Changes

The shoulder strap requirement is intended to address many restraint issues. The proposed rule would change section 7.12, which provides the method for testing seat back angles in order to determine whether the seat back angle is greater than 50.° Currently, the method involves placing a hinged board in the seat swing and using an inclinometer to measure the seat back angle. The proposed rule would result in more

accurate, repeatable testing, by clarifying the test method to include: (1) placing the seat in the most upright use position (currently the language only requires placing the seat in "the most upright position"); (2) removing all positioning accessories, such as pillows, that might interfere with the measurement; (3) positioning the belt restraint systems in order to limit interference with the measurement; and (4) mandating that the hinged board be made of steel because it better replicates the weight of a child in a seat. Currently, the hinged board can be made of wood. These changes would result in a more stringent standard by ensuring that measurements are more accurate and repeatable, thus, reducing the number of injuries associated with swings.

# d. Proposed Change in Standard

Currently, ASTM F 2088-11b contains the following test method for measuring the seat back angle at section 7.12:

7.12 Seat Back Angle Measurement—Place the back of the swing in the most upright position. Place the hinged boards with the hinged edge into the junction of the swing back and seat (see Fig. 8). Place the inclinometer on the floor and zero the reading. Manually pivot the swing to its furthermost back position. While maintaining this position, place the inclinometer up against the back recline board to obtain the seat back angle as shown in Fig. 9.

We are proposing that section 7.12 of ASTM F 2088-11b be replaced by the following language:

7.12 Seat Back Angle Measurement—Place the back of the swing in the most upright use position. Remove positioning accessories, including pillows. Orient the belt restraint segments to limit interaction with the hinged boards. Place the hinged boards with the hinged edge into the junction of the swing back and seat (see Fig. 8). Place the inclinometer on the floor and zero the reading. Manually pivot the swing to its furthermost back position. While maintaining this position, place the inclinometer up against the back recline board to obtain the seat back angle as shown in Fig. 9. Hinged boards shall be made of C1020 steel using a 4 by 4 in.

# (101 by 101 mm) plate hinged to a 4 by 9 in. (101 by 225 mm) plate. The thicknesses shall be adjusted so that the mass is equal to 17.5 lbm.

### 4. Broken, Detached, or Loose Components

#### a. Description of Hazard

Broken, detached, and loose components, such as arm, leg, motor housing, and hardware account for the third highest number of injuries (20%) and second most number of incident reports (25%). When part of the frame fails, or when hardware (such as screws) fall out of the product, the swing is likely to collapse with the infant seated inside the swing.

#### b. Assessment of ASTM F 2088-11b

Currently, the ASTM standard requires that the durability of a swing's arm, leg, motor housing, and hardware be tested by dropping a 25 pound weight onto the seat of the swing 50 times, or cycles. This is called dynamic loading in the ASTM standard and is meant to test the structural integrity of the swing. If any part of the swing breaks, or changes in such a way that would cause the product not to fully support a child, the swing fails the test.

#### c. Description of Proposed Changes

The proposed rule would make two changes to the dynamic load test that is found in section 7.2.1 of ASTM F 2088-11b. One change is a significant modification, and the other is a test clarification. The modification would increase the number of cycles from 50 to 500. We tested swing samples from different manufacturers, as well as a range of models and designs. The testing revealed that 500 cycles was the point at which the least robust swings started to show signs of fatigue that might result in structural failures of the

swing components. Increasing the number of test cycles from 50 to 500 will lead to a reduction in injuries in infant swings that occur when the arm, leg, motor housing, or hardware of a swing fails.

The proposal also would make a clarification to the dynamic load test. Currently, when setting up the swing, if the product has more than one height position, recline position, or facing direction, the product must be tested in the configuration most likely to fail. The proposed rule would account for tray positions and any other adjustable features. This will result in more repeatable and accurate testing, which will reduce the risk of injury in swings.

# d. Proposed Change in Standard

Currently, ASTM F 2088-11b contains the following test method at sections 7.2.1.2 and 7.2.1.3:

- 7.2.1.2 Set-up the swing in accordance with the manufacturer's instructions. If the swing seat has more than one height position, recline position, or facing direction, test the product in the configuration most likely to fail.
- 7.2.1.3 Place the shot bag on the seating surface of the swing and allow swinging motion to come to rest. Secure the swing so that the seat cannot move during the test. The means of securing the seat shall not affect the outcome of the test. Raise the shot bag a distance of 1 in. above the seat of the swing. Drop the weight onto the seat 50 times with a cycle time of 4 +/- 1s/cycle. The drop height is to be adjusted to maintain the 1 in. drop height as is practical.

We are proposing that sections 7.2.1.2 and 7.2.1.3 of ASTM F 2088-11b be replaced by the following language:

7.2.1.2 Set-up the swing in accordance with the manufacturer's instructions. If the swing seat has more than one height position, recline position, or facing direction, tray position, or other adjustable feature, test the product in the configuration most likely to fail.

7.2.1.3 Place the shot bag on the seating surface of the swing and allow swinging motion to come to rest. Secure the swing so that the seat cannot move during the test. The means of securing the seat shall not affect the outcome of the test. Raise the shot bag a distance of 1 in. above the seat of the swing. Drop the weight onto the seat  $50\,500$  times with a cycle time of 4 +/- 1s/cycle. The drop height is to be adjusted to maintain the 1 in. drop height as is practical.

# 5. Seat Design and Seat Failures

#### a. Description of Hazard

Seat issues account for 16 percent of reported incidents and 12 percent of injuries. Seat issues can be broken down into two subcategories of hazards. One is seat design issues, and the other is seat failure issues. Reports included in the seat design subcategory include seats that lean, or deflect, to one side. If a seat deflects substantially, the infant could fall out of the swing or bump against the swing frame. Some reports include scenarios where infants attempt to reach an object outside the swing, the seat deflects, and the victim falls out of the seat. Swing seat deflection is most common in swings supported by a single swing arm, which offers less support.

Seat failures include the following scenarios:

- The infant swing seat detaches from the swing frame completely;
- The back of the seat does not hold in the upright position and falls unexpectedly;
- The seat itself folds inward; and
- For swings with a fabric seat that fits over a frame, the fabric padding slips off.

In most cases, if the seat fails, the infant will fall out of the seat. In one case, it was determined that a seat failure contributed to an infant's death.

#### b Assessment of ASTM F 2088-11b

Currently, ASTM does not require testing for seat deflection. Our testing revealed that some swing seats deflect significantly. After reviewing the incidents reported to us, we noticed that swings supported by a single arm, which might make the swing less structurally sound, may be more likely to have seats that deflect in a way that could be dangerous for the occupant.

Currently, seat failure issues are addressed by dynamic loading (described in section [E][4] of this preamble on broken, detached, and loose swing components) and by static loading, which requires the tester to place a 75-pound weight (or three times the manufacturer's maximum recommended weight, whichever is greater) in the center of the swing seat. At the conclusion of the static load test, if the swing seat fails in any way, for example by detaching from the frame or folding inward, the product fails the static load test.

# c. Description of Proposed Changes

In regard to seat design issues, the proposed rule would add a new performance requirement and a new test method to the static load requirements that would measure seat deflection. The proposed new test method would require the tester to place a 5-pound weight onto the seat and measure the distance from the lowest point on the swing seating surface to the floor. Nominally loading the seat with 5 pounds will account for the presence of cloth seats that relax significantly when not weighted, which could interfere with the measurement. The tester then would place a 75-pound weight (or three times the manufacturer's maximum recommended weight, whichever is greater) onto the swing and record the same measurement. The two measurements are compared, and the change in vertical deflection cannot be more than 4 inches. This test will reveal whether

the swing is likely to deflect or deform under severe loading conditions. In addition to the seat deflection test, the swing must still meet the current static load requirement (using the same 75-pound weight) and cannot fail in any way that could create a hazardous environment for the child.

In regard to seat failures, we believe that more robust dynamic load testing will reveal any seat failure issues that are likely to occur in the swing. The modification and testing clarification to the dynamic load test, as described in section (E)(4)(c) of this preamble, will enable testers to better assess any hazards related to the seat, such as the possibility that the seat will detach from the swing frame.

# d. Proposed Change in Standard

In addition to the modification and testing clarification to the dynamic load test, described in section (E)(4)(c) and contained in section (E)(4)(d) of this preamble, we propose a new static load performance requirement and test method. We are proposing that the following section 6.1.2.1 be added to ASTM F 2088-11b:

6.1.2.1 The swing seat shall not have a change in vertical deflection greater than 4 in. The change in vertical deflection shall be calculated by subtracting the distance measured in 7.2.2.2 from the distance measured in 7.2.2.3.

Currently, ASTM F 2088-11b contains the following test method at section 7 2 2 2:

7.2.2.2 By any necessary means, place a static load of 75 lb (34.1 kg) or 3 times the manufacturer's maximum recommended weight, whichever is greater, in the center of the seat distributed by a wood block. Gradually apply the weight within 5 s and maintain for 60 s.

We are proposing that section 7.2.2.2 be replaced by the following language and that the language currently found in 7.2.2.2 of ASTM F 2088-11b be moved to 7.2.2.3 and changed as follows:

# 7.2.2.2 Place a static load of 5 lbm (2.3 kg) in the center of the seat distributed by a wood block. Measure and record the vertical distance from the floor to the lowest point on the infant swing's seating surface. Remove the load.

7.2.2.3 By any necessary means, place a static load of 75 lb (34.1 kg) or 3 times the manufacturer's maximum recommended weight, whichever is greater, in the center of the seat distributed by a wood block. Gradually apply the weight within 5 s and maintain for 60 s. **Measure and record the vertical distance from the floor to the lowest point on the loaded infant swing's seating surface.** 

# 6. Inadequate clearance between the swing seat and the swing frame

#### a. Description of Hazard

Thirteen percent of reported incidents are attributable to inadequate space between the infant seat and the swing frame. This hazard is responsible for the second most number of injuries (22%). When there is inadequate clearance between the seat and frame, an infant's head can become caught, or the infant's limbs can hit the swing frame while the swing is in motion.

#### b. Assessment of ASTM F 2088-11b

We believe that this hazard can be addressed by ensuring that the infant is kept securely within the seat's boundaries. If an infant is unable to maneuver outside the seat's boundaries, the infant's head is unlikely to be trapped in the swing frame or their limbs are unlikely to get into a position where they may hit the frame. The shoulder restraint requirement, mandated in ASTM F 2088-11b for swings with a seat back angle

greater than 50°, is sufficient to address situations involving inadequate clearance between the seat and seat frame.

# c. Description of Proposed Changes

In section (E)(3)(c) of this preamble, we describe several clarifications to the seat back angle test used to determine which swings require a shoulder harness. These clarifications will result in a more stringent standard, by ensuring that measurements are more accurate and repeatable, thus, reducing the number of injuries associated with swings.

# d. Proposed Change in Standard

We propose adding several clarifications to the seat back angle test that is used to determine which swings require a shoulder harness. These clarifications have been discussed previously in section (E)(3)(c) of this preamble, and the proposed changes are contained in section (E)(3)(d) of the preamble.

#### 7. Electrical or Battery Issues

# a. Description of Hazard

Infant swings typically rely on a/c power, batteries, or a combination of both, to operate the product. Nine percent of the reports we received related to electrical or battery issues associated with infant swings.. Common reports included: the motor overheating, batteries leaking, or the detection of smoke. Issues related to electrical or battery problems accounted for 1 percent of all reported injuries.

#### b. Assessment of ASTM F 2088-11b

Currently, ASTM F 2088-11b contains standards that regulate battery compartments only. Section 6.7 of ASTM 2088-11b requires that the battery

compartment be marked permanently to show the correct battery polarity, size, and voltage. Battery compartments are also required to have a means to contain the electrolyte material in the event that the battery leaks. ASTM 2088-11b also contains a requirement prohibiting nonrechargeable batteries from being recharged with a/c power. In addition, section 8.4 of ASTM 2088-11b requires all swings that use more than one battery to contain warnings. The warnings advise consumers not to mix old and new batteries, not to mix different kinds of batteries, and not to leave batteries in the swing when storing the product for long periods of time. There are no other requirements regarding the design and operation of the electrical components of swings.

# c. Description of Proposed Changes

The proposed rule would impose several new requirements to address hazards related to the electrical components of swings. We are proposing: (1) an electrical overload test; (2) an accessible component temperature requirement; and (3) a requirement to ensure that swings that run on a/c power are safe.

Electrical components (such as motors, batteries, and circuit boards) in a swing can overheat, and this can cause the components to melt, smoke, explode, or cause a fire. We are proposing a test to address this hazard; the proposed test is substantially similar to the test found in the ASTM F 963-08, "Standard Consumer Safety Specification for Toy Safety" ("ASTM F 963-08"). The proposed test would check to ensure that a normal electrical load cannot overload the electrical circuit. It would require the swing to be locked in a fixed position and operated continuously until a peak temperature can be recorded. For swings that operate continuously, the test would be stopped 60 minutes after the peak temperature is recorded. Under the proposal, a swing will fail the overload

test if it causes battery leakage, explosion, smoke, or a fire. For swings that operate on batteries and a/c power, the proposal would require both power sources, as well as any type of battery that can be used, to be tested separately to ensure that they all meet the requirement.

The proposed accessible component temperature requirement would state that, during the electrical overload test, no accessible component may achieve a temperature exceeding 160.° Accessible components are those that a child or caregiver would be able to touch. This test is meant to protect the public from burns caused by very hot electrical components.

The proposed rule also would require swings that run on a/c power (*i.e.*, swings that come with an electrical cord that is plugged into a wall socket) to comply with 16 CFR part 1505, the requirements for electrically operated toys and other electrically operated articles intended for children. The regulations at 16 CFR part 1505 contain established labeling, manufacturing, design, construction, and performance requirements intended to ensure that toys and electrical items intended for children are safe for their use.

The addition of new requirements for electrical components, including the electrical overload test, the accessible component temperature requirement, and the a/c power requirement, will reduce the number of injuries associated with swings. These provisions would ensure that motors and batteries do not overheat and catch fire, that accessible components do not become hot enough to burn a child or a caregiver, and that swings that run on a/c power are safe, as measured by well-established CPSC regulations already in place that govern electrical toys and other products intended for children.

d. Proposed Change in Standard

Currently, the introductory heading of ASTM F 2088-11b section 6.7 is:

6.7 Swings Containing Battery Compartment(s) (remote control devices are exempt from the requirements in 6.7):

We are proposing that the introductory heading of section 6.7 of ASTM F 2088-11b be replaced by the following:

6.7 *Electrically Powered Swings* (remote control devices are exempt from the requirements in 6.7):

In addition to complying with the existing sections 6.7.1, 6.7.2, and 6.7.3 of ASTM F 2088-11b (which deal with batteries and battery compartments only), we propose adding the following:

6.7.4 The surfaces of the batteries, switch, motor, or any other accessible electrical components shall not achieve temperatures exceeding 160°F (71°C) when tested in accordance with 7.13. At the conclusion of the test, the stalled motor condition shall not cause battery leakage, explosion, smoking, or a fire to any electrical component. This test shall be performed prior to conducting any other testing within the Performance Requirements section.

6.7.5 Swings operating from an a/c power source, nominally a 120-V branch circuit, shall conform to 16 CFR 1505.

We also propose adding the following test method to ASTM F 2088-11b at section 7.13:

7.13 Electrical Overload Test—The test shall be conducted using a new swing. The swing shall be tested using fresh alkaline batteries or an a/c power source. If the swing can be operated using both, then both batteries and a/c power must be tested separately. If another battery chemistry is specifically recommended by the manufacturer for use in the swing, repeat the test using the batteries specified by the manufacturer. If the swing will not operate using alkaline batteries, then test with the type of battery recommended by the manufacturer

at the specified voltage. The test is to be carried out in a draft-free location, at an ambient temperature of  $68 \pm 9^{\circ}$ F ( $20 \pm 5^{\circ}$ C).

7.13.1 Operate the swing at the maximum speed setting with the swing seat locked in a fixed position. Do not disable any mechanical or electrical protective device, such as clutches or fuses. Operate the swing continuously, and record peak temperature. The test may be discontinued 60 min after the peak temperature is recorded. If the swing shuts off automatically or must be kept "on" by hand or foot, monitor temperatures for 30 s, resetting the swing as many times as necessary to complete the 30 s of operation. If the swing shuts off automatically after an operating time of greater than 30 s, continue the test until the swing shuts off.

# 8. Instability

# a. Description of Hazard

Swing instability occurs when one leg of the swing lifts up or the swing tips over completely. Swing instability accounted for 4 percent of the reported incidents and 2 percent of the reported injuries involved. In some incidents, the swing was on an elevated surface and inched along until it fell off the surface. This scenario resulted in a hospitalization from the fall.

# b. Assessment of ASTM F 2088-11b

ASTM F 2088-11b contains performance requirements and test methods meant to prevent swing instability. The first requirement and test method is the "Unintentional Folding" test, which requires a force to be applied to the end of the swing leg in the direction normally associated with folding. This test will ensure that the swing will not fold and collapse while in use.

The second requirement and test method is the "Stability in the Direction of Swing Motion" test. This test is used on swings that have designs in which the swing moves back and forth with a horizontal swing motion. The test requires that the swing be

placed on an inclined surface of 20.° In this position, the swing cannot tip over or it fails the test. The swing is then rotated 180° and again placed on the inclined surface where, again, it must not tip over in order to pass. For swings with a horizontal swing motion, this is the best test to ensure that they will not tip over.

In addition, ASTM F 2088-11b has a warning label requirement to address situations where a consumer might put a swing, usually a smaller travel size swing, on an elevated surface. This action resulted in a very serious injury to a child when the swing fell off the elevated surface. Section 8.3.1(5) of ASTM F 2088-11b requires travel swings to have the following warning: "Always place swing on floor. Never use on any elevated surface."

# c. Description of Proposed Changes

The proposed rule would clarify the test methods for both the "Unintentional Folding" test and the "Stability in the Direction of Swing Motion" test. The clarifications are meant to address swing designs that are not tested adequately using the existing requirements.

The current "Unintentional Folding" test works well with swings that have an A-frame design. An A-frame swing has two legs that are shaped like the letter "A," with a bar that connects the top of the "A's." Two arms hang from the bar and support the swing. However, some swings on the market have an L-shaped design. These swings have two L-shaped legs that come together at the top. Where the two "Ls" join, a single arm hangs down to support the swing. For swings with an L-shaped design, the current test (which requires the force to be placed on the end of the leg in the direction normally associated with folding) will not adequately test the swing to ensure that it will not fold

while in use. Our testing on L-shaped infant swing designs revealed that forces placed at the end of the L-shaped legs created a twisting motion. This twisting motion may not exercise the latch to the same extent as a force applied to the end of a leg in an A-frame infant swing.

Additionally, for this test, we want to clarify the location of the applied force. The phrase, "end of the leg," could be interpreted inconsistently over various infant swing leg designs.

Thus, the proposed rule would require that the test address all swing designs, and it would do so by adding language that would require the tester to put the force "at the lowest point on the leg that results in the greatest force on the latch in the direction normally associated with folding." This will adequately test A-frame swings and L-shaped swings.

The proposed rule would make clarifications to the stability test, as well. The current test is appropriate for swings with a horizontal swing motion. Swings with a horizontal swing motion move back and forth. However, some swings move from side to side or have another type of swing motion. For these swings, the current test will not adequately predict stability issues. Therefore, the proposal would change the stability test to account for swings with other types of swing motions. Swings with a horizontal swing motion would continue to be tested in the same way (placing the swing on an inclined surface and then rotating it 180°). However, for swings with other than a horizontal motion, the proposed rule would require the tester to test the swing on the inclined surface in the most onerous swing orientations. This will ensure that all swings will be tested in the position most likely to fail.

Currently, the stability test requires the tester to account for different height positions, recline positions, and facing directions in order to ensure that the swing is safe in any configuration. For both swings with a horizontal swing motion and swings with other types of swing motions, we propose taking into consideration the direction of motion, the tray position, and any other adjustable features to ensure that the swing will be tested adequately in all possible configurations.

The test clarifications to the unintentional folding and stability tests will ensure that all types of swings, in all possible configurations, are adequately tested to ensure that the swing remains upright and functioning while the infant is placed in the swing. This will reduce the number of injuries associated with swings that fold unexpectedly or tip over.

# d. Proposed Change in Standard

Currently, ASTM F 2088-11b contains the following test method at sections 7.3.2.3, 7.3.2.4 and 7.3.2.5:

- 7.3.2.3 Position the product on the inclined surface with the axis of swinging motion parallel to the stop and the lower most frame member(s) in contact with the stop as shown in Fig. 5. If the product contains an axis of swinging motion that does not remain parallel to the stop during the full cycle of the swinging motion, the product shall be tested in the positions most likely to fail.
- 7.3.2.4 If the swing seat has more than one height position, recline position, or facing direction, test the product in the configuration most likely to fail.
- 7.3.2.5 Rotate the swing frame  $180^{\circ}$  and repeat the steps in 7.3.2.2-7.3.2.4.

We are proposing that the following section 7.3.2.3 replace the existing sections 7.3.2.3, 7.3.2.4 and 7.3.2.5 of ASTM F 2088-11b:

7.3.2.3 For a product with a horizontal axis of swing motion, position the product on the inclined surface with the axis of swinging motion parallel to the stop and the lower most frame member(s) in contact with the stop as shown in Fig. 5. If the product contains an axis of swinging motion that does not remain parallel to the stop during the full cycle of the swinging motion, the product shall be tested in the positions most likely to fail. If the swing seat has more than one height position, recline position, or facing direction, direction of motion, tray position, or other adjustable feature, test the product in the configuration most likely to fail. Rotate the swing frame 180° and repeat the procedure.

To account for products with a swing motion that is not horizontal, we are proposing that the text of ASTM F 2088-11b section 7.3.2.4 be as follows:

7.3.2.4 For a product with other than a horizontal axis of swing motion, position the product on the inclined surface in the most onerous swing orientation, such that the product is in contact with the stop. If the swing seat has more than one height position, recline position, facing direction, direction of motion, tray position, or other adjustable feature, test the product in the configuration most likely to fail.

Currently, ASTM F 2088-11b contains the following test method at sections

# 7.4.1:

7.4.1 With the unit in the manufacturer's recommended use position, apply a force of 10 lbf (45 N) at the end of a leg in the direction normally associated with folding, while holding opposite leg(s) stationary. Gradually apply the force over 5 s, and maintain for an additional 10 s. Repeat this test on each leg.

We are proposing to replace section 7.4.1 of ASTM F 2088-11b as follows:

7.4.1 With the unit in the manufacturer's recommended use position, apply a force of 10 lbf (45 N) at the end of a leg-lowest point on the leg that results in the greatest force on the latch in the direction normally associated with folding, while holding opposite leg(s) stationary. Gradually apply the force over 5 s, and maintain for an additional 10 s. Repeat this test on each leg.

#### 9. Broken or Detached Toys and Mobiles

a. Description of Hazard

Many swings come with infant toys or mobiles meant to entertain infants in the swing. Two percent of the incident reports and 4 percent of the injury reports are attributable to broken and detached toys and mobiles. Some injuries occurred when mobiles completely detached from the swing and fell onto the child.

#### b. Assessment of ASTM F 2088-11b

Currently, ASTM F 2088-11b requires toy mobiles included with infant swings to be tested for detachment. The test method, contained in section 7.11 of ASTM F 2088-11b, requires the tester to pull the mobile in a vertical downward direction toward where the occupant would be. A detachment, other than that of a soft toy, is considered a failure.

# c. Description of Proposed Changes

The proposed rule would clarify that the standard must account for mobiles that may fail if they are pulled in a direction other than straight downward vertically. It would require that the direction of force be in the most onerous position that is below the horizontal plane. In other words, a child in a swing will always be pulling in a downward direction, but under the proposal, the test would account for a child who pulls down, but slightly to the right or slightly to the left. To help manufacturers and third party conformity assessment bodies, we propose including a graphic in the standard illustrating the area below the horizontal plane. Our proposal would eliminate detachments that might occur from forces applied to the mobile in inadvertent directions, and the proposal will reduce the risk of injuries associated with this hazard.

#### d. Proposed Change in Standard

Currently, ASTM F 2088-11b contains the following test method at section

#### 7.11.3:

7.11.3 Gradually apply a vertical downward force of 10 lbf in the direction of the occupant to the end of the mobile furthest from the swing attachment point. Apply the force within 5 s and maintain for an additional 10 s.

The proposal would revise section 7.11.3 of ASTM F 2088-11b as follows:

7.11.3 Gradually apply a vertical downward force of 10 lbf in the direction of the occupant to the end of the mobile or component furthest from the swing attachment point. The direction of the force shall be in the most onerous direction that is at or below the horizontal plane passing through the point at which the force is applied (see Fig. 8a). Apply the force within 5 s and maintain for an additional 10 s and release within 1 s. The test is complete after the release.

We also propose adding the following Figure 8a, Mobile Attachment Strength, to ASTM F 2088-11b:

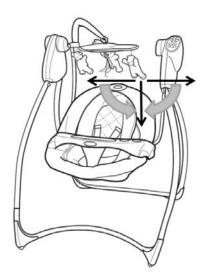


Fig. 8a Mobile Attachment Strength

#### 10. Miscellaneous

a. Description of Hazard

Four percent of the reported incidents and 7 percent of all injuries are attributable to miscellaneous causes. Of the incidents that we found to be product related, most include small parts, including pieces of fabric that detach and can result in a choking hazard. Other reports involve sharp protrusions and surfaces that can cause cuts and scrapes.

#### b. Assessment of ASTM F 2088-11b

We have evaluated these incidents and have determined that ASTM F 2088-11b addresses these incidents. For example, there are already requirements that prohibit small parts and sharp edges that can pose injury hazards to children. Consequently, we are not proposing any changes based on the incidents reported in this category.

# 11. Summary of CPSC recommended changes to ASTM F 2088-11b

In conclusion, the proposed rule would add two new requirements to ASTM F 2088-11b that will make the standard more stringent than the current voluntary standard and will reduce the risk of injury associated with infant swings: (1) a performance requirement and test method to address electrical overload in infant swing motors and batteries, as well as an accessible component temperature requirement and a requirement to ensure that swings that run on a/c power are safe; and (2) a performance requirement and test method to address seat deflection. We also propose two major modifications to ASTM F 2088-11b that will make the standard more stringent than the current voluntary standard and will reduce the risk of injury associated with infant swings: (1) an increase in the number of test cycles used in the dynamic load test, from 50 cycles to 500 cycles and (2) a modification to the mobile test to account for mobiles that can be pulled in downward directions other than straight down vertically. Finally, the proposal would

clarify the test methods for the dynamic load test, the stability test, the unintentional folding test, and the seat back angle measurement method. Each of these clarifications would make the resulting standard more stringent than the current voluntary standard and will result in a reduction of injuries because they will result in more accurate and repeatable testing of infant swings, which will lead to safer products.

#### F. Effective Date

The Administrative Procedure Act ("APA") generally requires that the effective date of the rule be at least 30 days after publication of the final rule. 5 U.S.C. § 553(d). To allow time for infant swings to come into compliance, we intend for the standard to become effective 6 months after the publication of the final rule in the *Federal Register*. We invite comment on how long it will take infant swing manufacturers to come into compliance.

# **G.** Regulatory Flexibility Act

#### 1. Introduction

The Regulatory Flexibility Act ("RFA"), 5 U.S.C. §§ 601–612, requires agencies to consider the impact of proposed rules on small entities, including small businesses. Section 603 of the RFA requires us to prepare an initial regulatory flexibility analysis and make it available to the public for comment when the notice of proposed rulemaking is published. The initial regulatory flexibility analysis must describe the impact of the proposed rule on small entities. In addition, it must identify any significant alternatives to the proposed rule that would accomplish the stated objectives of the rule and, at the same time, reduce the economic impact on small businesses. Specifically, the initial regulatory flexibility analysis must contain:

- A description of and, where feasible, an estimate of the number of small entities to which the proposed rule will apply;
- A description of the reasons why action by the agency is being considered;
- A succinct statement of the objectives of, and legal basis for, the proposed rule;
- A description of the projected reporting, recordkeeping, and other compliance
  requirements of the proposed rule, including an estimate of the classes of small
  entities subject to the requirements, and the type of professional skills necessary
  for the preparation of reports or records; and
- Identification, to the extent possible, of all relevant Federal rules which may duplicate, overlap, or conflict with the proposed rule.

#### 2. The Market

Based on a 2005 survey conducted by American Baby Group titled, "2006 Baby Products Tracking Study," along with Centers for Disease Control and Prevention birth data, we estimate that approximately 2.7 million infant swings are sold in the United States each year. We estimate that there are at least 10 manufacturers or importers supplying infant swings to the U.S. market. Eight of these firms are domestic manufacturers, and two of these firms are domestic importers with foreign parent companies.

Under the U.S. Small Business Administration ("SBA") guidelines, a manufacturer of infant swings is small if it has 500 or fewer employees, and an importer is considered small if it has 100 or fewer employees. Based on these guidelines, six domestic manufacturers and both domestic importers known to supply infant swings to the U.S. market are small businesses. The remaining entities are two large domestic

manufacturers. There may be additional unknown small manufacturers and importers operating in the U.S. market.

The JPMA runs a voluntary certification program for juvenile products.

Certification under the JPMA program is based on the ASTM voluntary infant swing standard. Two of the six small manufacturers produce swings that are certified as compliant with the ASTM voluntary infant swing standard by the JPMA. Of the importers, one imports swings that have been certified as compliant with the ASTM voluntary infant swing standard.

# 3. Impact on Small Business

# a. Costs of Complying with the Voluntary Standard

Section 104(b) of the CPSIA requires us to promulgate consumer product safety standards for durable infant and toddler products. These standards are to be "substantially the same as" applicable voluntary standards or more stringent than the voluntary standard if we conclude that more stringent requirements would further reduce the risk of injury associated with the product. The extent to which each firm will be impacted by the proposed rule depends on whether the firm's infant swings currently comply with the ASTM voluntary standard. Small firms whose infant swings already comply with the voluntary standard will only potentially incur costs related to our recommended additions and modifications to the standard.

#### b. Small Manufacturers

Two of the small manufacturers have infant swings known to comply with the voluntary standard. The costs, if any, to these firms associated with our recommended

changes are not expected to be significant. Any impact may be mitigated if the costs are treated as new product expenses and amortized over time.

The costs to the four manufacturing firms whose infant swings may not be compliant with the voluntary standard could be more significant. Meeting the existing voluntary standard could require manufacturers to redesign their product. However, we believe that the actual costs to most manufacturers will not be high, and any costs that are incurred can be mitigated if they are treated as new product expenses and amortized over time. This scenario also assumes that the four firms whose swings are not JPMA certified do not meet the ASTM voluntary standard. In fact, we have identified many instances in which a juvenile product not certified by the JPMA does comply with the ASTM voluntary standard. To the extent that the firms may already supply infant swings that meet the ASTM voluntary standard, the costs incurred will be less.

## c. Small Importers

Importers of infant swings would need to find an alternate source if their existing supplier does not come into compliance with the proposed standard. Purchasing compliant, higher quality infant swings could increase the cost of the product. Importers could pass on some of these increased costs to consumers. Some importers could respond to the rule by discontinuing the import of infant swings. The impact of this decision could be mitigated by replacing swings with a different infant or toddler product. Deciding to import an alternative infant or toddler product would be a reasonable and realistic way to offset any lost revenue.

Both of the known importers are subsidiaries importing their infant swings from a foreign parent company. Finding an alternative supply source would not be an option for

these firms. However, they could respond to the rule by discontinuing the import of their noncompliant infant swings and replacing them with another infant or toddler product. This is more likely to be necessary for the importer supplying infant swings that are not believed to be compliant with the voluntary standard.

# d. Costs of Complying with our Recommended Changes

We are proposing two new requirements, two major modifications, and several testing clarifications to ATSM F 2088-11b.

The proposed electrical and battery requirements would result in low or no costs to small firms. A firm's inability to comply with these requirements would most likely be the result of a defect that would be remedied by replacing the battery or other power source. According to one source in the industry, it is already fairly common for manufacturers to test their products to ensure that the electrical system will not overheat.

The proposed seat deflection test, depending on the swing design, would result in some costs to smaller firms. Swings likely to be affected are those in which a single swing arm supports the seat. In most cases, manufacturers of these types of swings would be able to produce infant swings that comply with the proposed requirement by using stronger materials. It is possible that a few firms may opt to redesign their product, which would be more costly. In either case, only a small number of firms will be affected.

The proposed modifications to the dynamic load test, which would increase the number of cycles in the test from 50 to 500, may have an impact on some swing manufacturers but have little or no impact on others. If there are modifications associated with this change, they might be substantial. Some products might only need stronger

screws or a better way of attaching swing components. Some swings might require a complete product redesign. Therefore, it is unclear how many products will be affected by modifying this requirement and what the costs will be.

We expect that the proposed modification to the infant mobile requirement would have a significant impact on swing manufacturers whose products require modifications to comply. Not only would these products need to be redesigned, the hard tool used to manufacture the swing component would need to be changed. The hard tool is the mold of the desired infant swing component shape. During the manufacturing process, the component is made by injecting plastic or other material into the tool. Hard tools are usually made by an outside firm, which means that production of the swing would cease until the tool is designed and created. While this will be costly for some firms, it is expected to impact only a small number of firms whose mobiles would not meet the proposed change.

The testing clarifications would not require product modifications. These changes are meant to ensure that testing is consistent and repeatable. There would be no economic impact on small firms as a result of these changes.

# 4. Alternatives

Under the CPSIA, we must promulgate consumer product safety standards that are substantially the same as the voluntary standards for durable infant or toddler products, or promulgate consumer product safety standards that are more stringent than the voluntary standards, if the Commission determines that more stringent standards would further reduce the risk of injury associated with such products. Adopting the voluntary standard without change is one alternative that could reduce the potential cost

to small businesses. However, small firms that are not complaint with the voluntary rule still would incur costs to become compliant with the existing ASTM standard for infant swings, regardless of whether we recommend changes.

A second alternative is to set an effective date longer than 6 months to allow firms additional time to comply with the mandatory standard. More time would give manufacturers an opportunity to make any necessary changes to their product and provide importers time to find an alternative supply source or replace noncompliant swings with an alternative infant or toddler product, if necessary.

# 5. Conclusion of Initial Regulatory Flexibility Analysis

It is possible that the proposed standard, if finalized, could have a significant impact on some small businesses whose infant swings are not ASTM compliant. Further, it is possible that some swings that are already ASTM compliant might incur costs associated with our recommended changes. For manufacturers, the extent of these costs could entail expensive product redesign. Importers may need to find alternative sources of infant swings or replace swings with another infant or toddler product.

We invite comments describing:

- the possible impact of this rule on small manufacturers and importers; and
- significant alternatives to the proposed rule that would accomplish the stated
   objectives of the proposed rule, and at the same time, reduce the economic impact
   on small businesses.

#### H. Environmental Considerations

The Commission's regulations address whether we are required to prepare an environmental assessment or an environmental impact statement. If our rule has

"little or no potential for affecting the human environment" it will be categorically exempted from this requirement. 16 CFR 1021.5(c)(1). The proposed rule falls within the categorical exemption.

# I. Paperwork Reduction Act

#### 1. Introduction

This proposed rule contains information collection requirements that are subject to public comment and review by the Office of Management and Budget ("OMB") under the Paperwork Reduction Act of 1995 (44 U.S.C. §§ 3501–3521). In this document, pursuant to 44 U.S.C. § 3507(a)(1)(D), we set forth:

- a title for the collection of information;
- a summary of the collection of information;
- a brief description of the need for the information and the proposed use of the information;
- a description of the likely respondents and proposed frequency of responses to the collection of information;
- an estimate of the burden that shall result from the collection of information; and
- notice that comments may be submitted to the OMB.

# 2. Title and Description of the Collection of Information

The title for this collection of information is "Safety Standard for Infant Swings." The proposed rule would require each infant swing to comply with ASTM F 2088-11b, Standard Consumer Safety Specification for Infant Swings. Sections 8.1 and section 9.1 of ASTM F 2088-11b contain requirements for marking, labeling, and instructional literature. These requirements fall within the definition of "collection of information," as

defined in 44 U.S.C. § 3502(3). Specifically, 5 CFR 1320.3(c)(2) states that a collection of information includes information that an agency requires another entity, such as an infant swing manufacturer or importer, to obtain or compile for the purpose of disclosure to the public through labeling.

Section 8.1 of ASTM F 2088-11b requires that the following items be clearly and legibly marked on each infant swing and its retail carton:

- the name and the place of business (city, state, and zip code) or telephone number
   of the manufacturer, importer distributor, or seller;
- a model number, stock number, catalog number, item number, or other symbol expressed numerically, or otherwise, such that only articles of identical construction, composition, and dimensions bear identical markings; and
- a code mark or other means that identifies the date (month and year, as a minimum) of manufacture.

This information is necessary in order to assist us and consumers when there is a need to identify: (1) the firm supplying the infant swing, (2) the model number (or other identifying mark) of the infant swing, and (3) the date the swing was manufactured.

Section 9.1 of ASTM F 2088-11b requires all firms supplying swings to provide written, easy to read, instructions regarding assembly, maintenance, cleaning, and use. Instructional literature ensures that consumers are aware of how to use the product as the manufacturer intended.

The information required in sections 8.1 and 9.1 of ASTM F 2088-11b is intended to address safety issues that might arise with the product. The instructional literature in section 9.1 of ASTM F 2088-11b is meant to prevent safety problems by providing

assembly and maintenance information to consumers. The information required in section 8.1 of ASTM F 2088-11b is intended to help us and the consumer identify the firm and the product, should a safety issue arise.

# 3. Description of the Respondents and the Estimated Burden

The respondents affected by this collection of information are manufacturers or importers of infant swings. We estimate the burden of this collection of information as follows:

Table 3 – Estimated Annual Reporting Burden

16 CFR Section	Number of Respondents	Frequency of	Total Annual	Hours per Response	Total Burden
	1	Responses	Responses	•	Hours
1223.2(a)	5	5	25	1	25

There are 10 known entities supplying infant swings to the U.S. market. Five entities produce labels that comply with the standard. We assume these five entities produce labels that comply with the standard because they claim that their infant swings comply with ASTM F 2088-11b, and the swings are certified by the JPMA as conforming to ASTM F 2088-11b. Therefore, we assume that their products meet the marking and labeling requirements of ASTM F 2088-11b. For these entities, there would be no additional burden. Under the OMB's regulations at 5 CFR 1320.3(b)(2), the time, effort, and financial resources necessary to comply with a collection of information that would be incurred by persons in the "normal course of their activities" are excluded from a burden estimate, where an agency demonstrates that the disclosure activities required to comply are "usual and customary." Therefore, because these five entities already produce labels that comply with the standard, we estimate tentatively, that with respect to

these five entities, there are no burden hours associated with section 8.1 of ASTM F 2088-11b because any burden associated with supplying these labels would be "usual and customary" and not within the definition of "burden" under the OMB's regulations.

We assume that the remaining five entities use labels on their products and their packaging but may need to modify their existing labels. Based on our experience with other rules under section 104 of the CPSIA, we estimate that the time required to make these modifications is about 1 hour per model. Each entity supplies an average of five different models of infant swings; therefore, the estimated burden hours associated with labels is 1 hour per model x 5 entities x 5 models per entity = 25 hours.

We estimate that the hourly compensation for the time required to create and update labels is \$28.36. We base the hourly compensation figure on data available from the U.S. Bureau of Labor Statistics. This information can be found in the U.S. Bureau of Labor Statistics' September 2011 data in Table 9, "Employer Costs for Employee Compensation," for all sales and office workers in goods-producing private industries, which can be found at: http://www/bls.gov/ncs. Therefore, the estimated annual cost to industry associated with the proposed labeling requirements is \$709.00 (\$28.36 per hour  $\times$  25 hours = \$709.00).

Section 9.1 of ASTM F 2088-11b requires instructions to be supplied with the product. Infant swings are products that generally require assembly, and products sold without such information would not be able to compete successfully with products supplying this information. Under the OMB's regulations at 5 CFR 1320.3(b)(2), the time, effort, and financial resources necessary to comply with a collection of information that would be incurred by persons in the "normal course of their activities" are excluded

from a burden estimate, where an agency demonstrates that the disclosure activities required to comply are "usual and customary." Therefore, because we are unaware of infant swings that generally require some installation but lack any instructions to the user about such installation, we tentatively estimate that there are no burden hours associated with section 9.1 of ASTM F 2088-11b because any burden associated with supplying instructions with infant swings would be "usual and customary" and not within the definition of "burden" under the OMB's regulations.

#### 4. Conclusion

Based on this analysis, the proposed standard for infant swings would impose a burden to industry of 25 hours at a cost of \$709.00 annually.

#### 5. Request for Comments

In compliance with the Paperwork Reduction Act of 1995 (44 U.S.C. § 3507(d)), we have submitted the information collection requirements of this rule to the OMB for review. Anyone who would like to submit comments regarding information collection should do so by [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER], to the Office of Information and Regulatory Affairs, OMB (see the ADDRESSES section at the beginning of this notice). Pursuant to 44 U.S.C. § 3506(c)(2)(A), we invite comments on:

- whether the collection of information is necessary for the proper performance of the CPSC's functions, including whether the information will have practical utility;
- the accuracy of the CPSC's estimate of the burden of the proposed collection of information, including the validity of the methodology and assumptions used;

- ways to enhance the quality, utility, and clarity of the information to be collected;
- ways to reduce the burden of the collection of information on respondents,
   including the use of automated collection techniques, when appropriate, and other
   forms of information technology; and
- the estimated burden hours associated with label modification, including any alternative estimates.

# J. Preemption

Section 26(a) of the CPSA, 15 U.S.C. § 2075(a), provides that where a consumer product safety standard is in effect and applies to a product, no state or political subdivision of a state may either establish or continue in effect a requirement dealing with the same risk of injury unless the state requirement is identical to the federal standard. Section 26(c) of the CPSA also provides that states or political subdivisions of states may apply to the Commission for an exemption from this preemption under certain circumstances. Section 104(b) of the CPSIA refers to the rules to be issued under that section as "consumer product safety rules," thus implying that the preemptive effect of section 26(a) of the CPSA would apply. Therefore, a rule issued under section 104 of the CPSIA will invoke the preemptive effect of section 26(a) of the CPSA when the rule becomes effective.

# K. Testing and Certification

Once there is a safety standard in effect for infant swings, it will be unlawful for anyone to manufacture, distribute, or import an infant swing into the United States that is not in conformity with this standard. 15 U.S.C. § 2068(1).

In addition, section 14(a)(2) of the CPSA, 15 U.S.C. § 2063(a)(2), imposes the requirement that products subject to a children's product safety rule must be tested by a third party conformity assessment body accredited by the Commission to test the product. As discussed in section A of this preamble, section 104(b)(1)(B) of the CPSIA refers to standards issued under this section as "consumer product safety standards." Under section 14(f)(1) of the CPSA, 15 U.S.C. § 2063(f)(1), the term "children's product safety rule" includes all standards enforced by the Commission. Thus, the infant swing standard will be a children's product safety rule, subject to third party testing and certification.

Before the requirement for third party testing and certification for infant swings can go into effect, we must issue a notice of requirements to explain how laboratories can become accredited as third party conformity assessment bodies to test infant swings to the new safety standard. We plan to issue the notice of requirements in the future.

# L. Request for Comments

This proposed rule begins a rulemaking proceeding under section 104(b) of the CPSIA to issue a consumer product safety standard for infant swings. We invite all interested persons to submit comments on any aspect of the proposed rule. In particular, we seek comments on the following:

• We discuss slump-over deaths in section (E)(2) of this preamble. We invite comments related to whether it would reduce the risk of slump-over deaths if we revise the standard to state that infants who cannot hold their head up should not be placed in any infant swing, or in the alternative, whether infants who cannot hold their head up should only be placed in cradle swings, which allow an infant to lie flat. We invite comments related to whether the warning statement

contained in section 8.3.1(4) of ASTM F 2088-11b (which requires the following warning label on all infant swings having an adjustable seat recline with a seat back angle greater than 50°: "Use only in most reclined seat position until infant can hold head up unassisted") is sufficient to warn caregivers of the risk of slumpover deaths. We also invite comments related to whether 50° is the appropriate seat back angle to use in the warning, and what warnings should be on swings that do not have an adjustable seat back; and

- We discuss seat deflection hazards in section (E)(5) of this preamble. If a swing seat deflects, or leans, substantially, an infant could fall out of the swing or bump against the frame. We invite comments on whether the proposed performance requirement and test method adequately will predict whether a swing seat is likely to deflect.
- we discuss electrical and battery issues in section (E)(7) of this preamble. Some swings operate using batteries but can be powered alternatively with an a/c adaptor. Our proposed test would require that each of the power sources meet the requirements. Additionally, if alternative batteries are specified by the manufacturer as usable to power the swing, they would also be required to be tested. The proposed test is to be conducted using new swings. This may require more than one swing to be tested in order to independently test each type of battery and/or a/c power adaptor that could be used with the swing. We invite comments describing whether there is an alternate test method that would accomplish the stated objectives of the test and, at the same time, reduce the cost on manufacturers.

• Infant swings are regulated by a children's product safety rule and are subject to testing that must be performed according to a notice of requirements. The Commission seeks comment on methods to ensure that, when the existing safety rule for infant swings and its notice of requirements must be amended, the effective dates of the notice of requirements and the amended infant swings safety rule are aligned such that no infant swings are subject to a notice of requirements that is inconsistent with the infant swings safety rule in effect.

Comments should be submitted in accordance with the instructions in the **ADDRESSES** section at the beginning of this notice.

# List of Subjects in 16 CFR Part 1223

Consumer Protection, Imports, Incorporation by Reference, Infants and Children, Labeling, Law Enforcement, Safety and Toys.

Therefore, the Commission proposes to amend Title 16 of the Code of Federal Regulations by adding part 1223 to read as follows:

#### PART 1223-SAFETY STANDARD FOR INFANT SWINGS

Sec.

1223.1 Scope.

1223.2 Requirements for infant swings.

Authority: The Consumer Product Safety Improvement Act of 2008, Pub. L. 110-314, § 104, 122 Stat. 3016 (August 14, 2008).

# § 1223.1 Scope.

This part establishes a consumer product safety standard for infant swings.

# § 1223.2 Requirements for Infant Swings.

- (a) Except as provided in paragraph (b) of this section, each infant swing must comply with all applicable provisions of ASTM F 2088-11b, Standard Consumer Safety Specification for Infant Swings, approved on October 1, 2011. The Director of the Federal Register approves this incorporation by reference in accordance with 5 U.S.C. § 552(a) and 1 CFR part 51. You may obtain a copy from ASTM International, 100 Bar Harbor Drive, P.O. Box 0700, West Conshohocken, PA 19428; <a href="http://www.astm.org">http://www.astm.org</a>. You may inspect a copy at the Office of the Secretary, U.S. Consumer Product Safety Commission, Room 820, 4330 East West Highway, Bethesda, MD 20814, telephone 301-504-7923, or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <a href="http://www.archives.gov/federal\_register/code">http://www.archives.gov/federal\_register/code</a> of federal\_regulations/ibr\_locations.html.
- (b) Comply with the ASTM F 2088-11b standard with the following additions or exclusions:
- (1) In addition to complying with section 6.1.2 of ASTM 2088-11b, comply with the following:
- (i) 6.1.2.1 The swing seat shall not have a change in vertical deflection greater than 4 in. The change in vertical deflection shall be calculated by subtracting the distance measured in 7.2.2.2 from the distance measured in 7.2.2.3.
- (2) Instead of complying with the introductory heading in 6.7 of ASTM 2088-11b, comply with the following:
- (i) 6.7 *Electrically Powered Swings* (remote control devices are exempt from the requirements in 6.7):

- (3) In addition to complying with 6.7.3 of ASTM 2088-11b, comply with the following:
- (i) 6.7.4 The surfaces of the batteries, switch, motor, or any other accessible electrical components shall not achieve temperatures exceeding 160° F (71° C) when tested in accordance with 7.13. At the conclusion of the test, the stalled motor condition shall not cause battery leakage, explosion, smoking, or a fire to any electrical component. This test shall be performed prior to conducting any other testing within the Performance Requirement section.
- (ii) 6.7.5 Swings operating from an a/c power source, nominally a 120-V branch circuit, shall conform to 16 CFR 1505.
- (4) Instead of complying with section 7.2.1.2 of ASTM 2088-11b, comply with the following:
- (i) 7.2.1.2 Set-up the swing in accordance with the manufacturer's instructions. If the swing seat has more than one height position, recline position, facing direction, tray position, or other adjustable feature, test the product in the configuration most likely to fail.
- (5) Instead of complying with 7.2.1.3 of ASTM 2088-11b, comply with the following:
- (i) 7.2.1.3 Place the shot bag on the seating surface of the swing and allow swinging motion to come to rest. Secure the swing so that the seat cannot move during the test. The means of securing the seat shall not affect the outcome of the test. Raise the shot bag a distance of 1 in. above the seat of the swing. Drop the weight onto the seat

500 times, with a cycle time of 4 +/- 1s/cycle. The drop height is to be adjusted to maintain the 1 in. drop height as is practical.

- (6) Instead of complying with section 7.2.2.2 of ASTM 2088-11b, comply with the following:
- (i) 7.2.2.2 Place a static load of 5 lb (2.3 kg) in the center of the seat distributed by a wood block. Measure and record the vertical distance from the floor to the lowest point on the infant swing's seating surface. Remove the load.
- (7) In addition to complying with the changes to section 7.2.2.2 of ASTM 2088-11b as described in paragraph (b)(6) of this section, comply with the following:
- (i) 7.2.2.3 By any necessary means, place a static load of 75 lb (34.1 kg) or 3 times the manufacturer's maximum recommended weight, whichever is greater, in the center of the seat distributed by a wood block. Gradually apply the weight within 5 s and maintain for 60 s. Measure and record the vertical distance from the floor to the lowest point on the loaded infant swing's seating surface.
- (8) Instead of complying with section 7.3.2.3 of ASTM 2088-11b, comply with the following:
- (i) 7.3.2.3 For a product with a horizontal axis of swing motion, position the product on the inclined surface with the axis of swinging motion parallel to the stop and the lower most frame member(s) in contact with the stop as shown in Fig. 5. If the swing seat has more than one height position, recline position, facing direction, direction of motion, tray position, or other adjustable feature, test the product in the configuration most likely to fail. Rotate the swing frame 180° and repeat the procedure.

- (9) Instead of complying with section 7.3.2.4 of ASTM 2088-11b, comply with the following:
- (i) 7.3.2.4 For a product with other than a horizontal axis of swing motion, position the product on the inclined surface in the most onerous swing orientation such that the product is in contact with the stop. If the swing seat has more than one height position, recline position, facing direction, direction of motion, tray position, or other adjustable feature, test the product in the configuration most likely to fail.
  - (10) Do not comply with 7.3.2.5 of ASTM 2088-11b.
- (11) Instead of complying with section 7.4.1 of ASTM 2088-11b, comply with the following:
- (i) 7.4.1 With the unit in the manufacturer's recommended use position, apply a force of 10 lbf (45 N) at the lowest point on the leg that results in the greatest force on the latch in the direction normally associated with folding, while holding the opposite leg(s) stationary. Gradually apply the force over 5 s, and maintain for an additional 10 s. Repeat this test on each leg.
- (12) Instead of complying with section 7.11.3 of ASTM 2088-11b, comply with the following:
- (i) 7.11.3 Gradually apply a force of 10 lbf to the end of the mobile or component furthest from the swing attachment point. The direction of force shall be in the most onerous direction that is at or below the horizontal plane passing through the point at which the force is applied (see Fig. 8a). Apply the force within 5 s, maintain for an additional 10 s, and release within 1 s. The test is complete after the release.
  - (13) In addition to Figure 8 of ASTM 2088-11b, use the following:

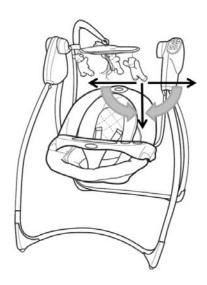


Figure 8a Mobile Attachment Strength

- (14) Instead of complying with section 7.12 of ASTM 2088-11b, comply with the following:
- (i) 7.12 *Seat Back Angle Measurement* Place the back of the swing in the most upright use position. Remove positioning accessories, including pillows. Orient the belt restraint segments to limit the interaction with the hinged boards. Place the hinged boards with the hinged edge into the junction of the swing back and seat (see Fig. 8). Place the inclinometer on the floor, and zero the reading. Manually pivot the swing to its furthermost back position. While maintaining this position, place the inclinometer up against the back recline board to obtain the seat back angle as shown in Fig. 9. Hinged boards shall be made of C1020 steel using a 4 by 4 in. (101 by 101 mm) plate hinged to a 4 by 9 in. (101 by 225 mm) plate. The thicknesses shall be adjusted so that the mass is equal to 17.5 lbm.
- (15) In addition to complying with the changes to section 7.12 of ASTM 2088-11b as described in paragraph (b)(14) of this section, comply with the following:

(i) 7.13 Electrical Overload Test – The test shall be conducted using a new

swing. The swing shall be tested using fresh alkaline batteries or an a/c power source. If

the swing can be operated using both, then both batteries and a/c power must be tested

separately. If another battery chemistry is specifically recommended by the manufacturer

for use in the swing, repeat the test using the batteries specified by the manufacturer. If

the swing will not operate using alkaline batteries, then test with the type of battery

recommended by the manufacturer at the specified voltage. The test is to be carried out

in a draft-free location, at an ambient temperature of  $68 \pm 9^{\circ}$  F ( $20 \pm 5^{\circ}$  C).

(ii) 7.13.1 Operate the swing at the maximum speed setting with the swing seat

locked in a fixed position. Do not disable any mechanical or electrical protective device,

such as clutches or fuses. Operate the swing continuously, and record peak temperature.

The test may be discontinued 60 min. after the peak temperature is recorded. If the swing

shuts off automatically or must be kept "on" by hand or foot, monitor temperatures for 30

s, resetting the swing as many times as necessary to complete the 30 s of operation. If the

swing shuts off automatically after an operating time of greater than 30 s, continue the

test until the swing shuts off.

Dated: February 2, 2012.

Todd A. Stevenson.

Secretary, Consumer Product Safety Commission

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